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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,851	05/25/2001	Armin Wagner	41674	4758

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EXAMINER

MULLINS, BURTON S

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,851

Applicant(s)

WAGNER ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 9, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed May 25, 2001 has been considered.

Claim Objections

3. Claims 9 and 14-15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from a multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 9 and 14-15 have not been further treated on the merits.

Specification

4. The disclosure is objected to because of the following informalities: The reference number "4a" (claim 1) is not in the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-8 and 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, recitation “more or less” used as an adverb modifying “applied” is vague and indefinite. Used as an adjective, i.e., “more or less cylindrical,” is taken to mean “approximately” or “generally”. Similarly, the meaning of the adjective “interactive” is not clear.

In claim 3, it is not clear if the bonding layer 305 is the same as the bonding agent 305 in claim 1. In other words, the bonding agent forms a bonding layer which is not an “additional” means of fastening, but rather comprises the bonding agent itself. See claim 2.

Claim 4 is a duplicate of claim 2 and thus is indefinite since it fails to further limit claim 1.

In claim 5, the adjective “interacting” is not clear. What distinguishes “interacting anchor and receiving means” from “frictionally connected...anchor and receiving means”? Further, “frictionally connected...anchor and receiving means” is indefinite. Does this mean the bonding layer is also “frictional connected” with both the segments and the cover? How can the anchor and receiving means be in frictional contact if there is a bonding layer therebetween? Is “frictional connection” to be interpreted strictly?

In claim 6, does “pertinent” mean --respective--? Recitation “from the viewpoint of geometry and materials” is vague and indefinite.

In claim 7, it is not clear what a “soft, hard, or glass solder layer” is. How is “glass” distinguished from “soft” and “hard”? What is a “glass solder” layer? A ceramic layer?

In claim 10, recitation “...and the segments (4; 104; 204; 304) by interacting means (3', 3", 4"; 4a'; 106, 107; 309, 311) each preferably in one piece)...” [sic] is vague and indefinite. What is “in one piece”? The interacting means or the segments or the cover?

In claim 12, “in the case of a planar commutator” lacks antecedent basis. Recitation “commutator segments (104; 204), preferably containing carbon, by means of an electrically conductive adhesive layer (105, 205) on accompanying connection means” makes no sense.

In claim 13, “ones preferably molded on the outer cover” is vague and indefinite. Does this refer to the receiving means or the “corresponding receiving means” or both?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-6, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Pollock (US 2,486,875). Pollock teaches a commutator with a preformed, more or less cylindrical outer cover (retaining member or shell) 6; commutator segments 3 fastened onto the outer cover 6 by means of a bonding agent applied between the segments and the outer

cover in the form of an insulating material 5 placed between the segments and the outer cover 6 (Figs.3-5) and impregnated with a heat-convertible or polymerized resinous insulation, e.g., phenol-formaldehyde resins (c.4, lines 49-67); and interactive means comprising anchoring recesses 8/10/12 (Figs.3-5) in the segments interfitting and interlocking with complementary projections (not numbered; Figs.3-5) on the outer cover 6 for positioning and orienting the segments relative to the cover (c.2, line 50-c.3 line 27).

Regarding claim 3, as best understood, the impregnated resins “additionally fasten” the segments 3 on the outer cover 6.

Regarding claim 5, as best understood, the anchors in Pollock comprise complementary projections (not numbered) with the receiving means comprising recesses 8/10/12 (Figs.3-5).

Regarding claim 6, the segments 3 are inserted radially.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 5, 7 and 10-13, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/14319 (WO ‘319) in view of Binder (US 3,819,967). WO ‘319 teaches a commutator with a preformed, more or less cylindrical outer cover 16 (Figs.17-23); commutator segments 10 fastened onto the outer cover; and interactive means comprising

anchoring recesses 318 in the cover (Fig.18) interfitting with complementary projections 314 on the segments for positioning and orienting the segments relative to the cover (abstract).

Regarding claim 10, WO '319 teaches a process of manufacture wherein molded copper commutator segments having fastening means 314 (Fig.18) are "delivered," i.e., "positioned and oriented" in complementary recesses 318 in the molded cylindrical outer cover (Figs.18-20).

WO '319 differs in that there is no teaching of a "bonding agent" applied between the segments and the outer cover.

Binder teaches a commutator in which an adhesive layer 20 is applied to a base member 16 to connect commutating segments 18 (Figs.2-3). The layer may comprise epoxy and provides an uncomplicated and relatively easy means to assemble the components and a high degree of thermal and mechanical stability (abstract; c.2, lines 17-21).

It would have been obvious to one of ordinary skill to employ an adhesive per Binder between the commutator and cover of WO '319 since the adhesive would have been desirable for thermal and mechanical stability of the commutator.

Regarding claim 7, note the flat commutator embodiment in WO '319 (Figs.24-25).

11. Claims 1 and 8, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 127,801 (EP '801) in view of EP 361,860 (EP '860). EP '801 teaches a commutator with a preformed, more or less cylindrical ceramic outer cover 1 (Fig.2); and commutator segments 2 fastened onto the outer cover by means of a soldered, aluminum oxide bonding layer 3. EP '801 does not teach interactive means for positioning and orienting the segments relative to the cover.

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EP '860 teaches a commutator including a cylindrical base or cover 1 and plural commutator segments 3 glued thereto. The commutator includes interactive means for positioning and orienting the segments relative to the cover comprising tongues 6 inserted into complementary recesses 7 in the base (Fig.2). The interactive means secures the commutator segments and prevents circumferential movement (c.2, lines 15-17).

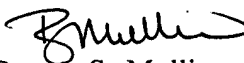
It would have been obvious to one of ordinary skill to modify EP '801 and provide interactive means or tongues per EP '860 thereon since they would have been desirable to prevent circumferential movement of the commutator segments relative the base.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
September 12, 2002